

We claim:

1. As assembly for supporting a rail on a railroad tie, said assembly comprising:
an abrasion plate having an upper surface, and being constructed and arranged to fit on the railroad tie;

a rail pad having a lower surface and being constructed and arranged to fit on said abrasion plate with said lower surface facing and contacting said upper surface and to support the rail;

a plurality of clips arranged to secure the rail on top of said rail pad; and
a locking mechanism adapted to prevent movement between said abrasion plate and said railroad pad, said locking mechanism including a plurality of bumps disposed on one of said surfaces and a plurality of matching depressions on the other of said surfaces.

2. The assembly of claim 1 wherein said bumps have dimensions smaller than said depressions to allow relative adjustment therebetween.

3. The assembly of claim 1 wherein said bumps are formed on said rail pad.

4. The assembly of claim 1 wherein said abrasion plate has a lower surface with additional depressions.

5. The assembly of claim 1 wherein said abrasion plate has a lower surface, and is formed with upper surface and lower surface depressions.

6. The assembly of claim 5 wherein said upper surface depressions are offset laterally from said lower surface depressions.

7. The assembly of claim 1 wherein said abrasion plate includes two opposed plate sides formed to wrap around the tie sides.

8. The assembly of claim 7 wherein said plate sides each include a flat portion and an angled portion.

9. A railroad assembly component for supporting a railroad track on a railroad tie, said component comprising:

an abrasion plate having a generally flat body and adapted for placement on the tie;

a rail pad arranged to be placed on top of said abrasion pad and to support the rail; and

a coupling adapted to couple said abrasion plate and said rail pad, said coupling including a projection dependent on one of said abrasion plate and said rail pad, and a hole adapted to receive and capture said projection and formed on the other of said abrasion plate and said rail pad.

10. The assembly of claim 9 wherein said projection is attached to said abrasion plate and said hole is formed in said pad.

11 ~~12~~. The assembly of claim 9 wherein said projection includes a stalk terminated with a head, said head being bigger than said hole.

12 ~~13~~. The assembly of claim ~~12~~¹¹ wherein said stalk has a cross-sectional dimension smaller than the cross-sectional dimension of the hole to allow some lateral play between said plate and said pad.

13 ~~14~~. The assembly of claim 9 wherein said pad and said plate each has four corners, and said coupling includes four projections and four corresponding holes disposed at respective corners of one of said pad and plate.

14 ~~15~~. A railroad assembly for securing a railroad track on a railroad tie, said railroad assembly comprising:

an abrasion plate having an upper surface, and being constructed and arranged to fit on the railroad tie;

a rail pad having a lower surface and being constructed and arranged to fit on said abrasion plate with said lower surface facing and contacting said upper surface and to support the rail;

a plurality of clips arranged to secure the rail on top of said rail pad;

a plurality of clip supports supporting said clips and having lateral walls; and

a seal formed between one of said abrasion plates and rail pad and said clip supports to protect the interface with the tie from extraneous matter.

~~15~~ ¹⁴ ~~16~~. The assembly of claim ~~15~~ wherein said one of said abrasion plate and said rail pad is formed with at least one cutout shaped and sized to fit partially around one of said clip supports, said seal being formed at the interface between the cutout and the anchor.

~~16~~ ¹⁵ ~~17~~. The assembly of claim ~~16~~ wherein said seal is formed on said abrasion plate, said abrasion plate being a molded element having a body with a predetermined thickness and a lip having a thickness smaller than said body and forming said seal.

~~17~~ ¹⁶ ~~18~~. The assembly of claim ~~17~~ wherein said lip is elastic.

~~18~~ ¹⁸ ~~19~~. A method of installing an abrasion assembly to a tie having a worn surface, comprising:

providing an abrasion assembly having a bottom surface formed with a plurality of irregularities;

depositing on the tie an uncured epoxy;

positioning said abrasion assembly; and

allowing the epoxy to cure thereby engaging the abrasion assembly by said bottom surface and said irregularities.

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~~19~~ 20. The method of claim ~~19~~ wherein said bottom surface is formed with a plurality of depressions, and wherein said epoxy enters into said depressions when said abrasion assembly is positioned.

~~20~~ 21. The method of claim 19 further comprising providing said assembly with depressions arranged in a pattern selected to resist longitudinal and transversal forces after the assembly is secured to the tie by the cured epoxy.